Framework for a Montana Bison Conservation and Management Plan
Table of Contents

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Purpose and Need for A Statewide Bison Conservation and Management Plan, Environmental Impact Statement (EIS)

Bison are a native Montana animal that are considered to be at risk due to historic extirpation, limited populations, loss of genetic diversity/introgression, threats to their habitat, and/or restricted distribution.

The obligation to discuss bison conservation and management is dictated under Montana legislative code 87-1-201, which states FWP "shall manage wildlife, fish, game, and nongame animals in a manner that prevents the need for listing under the state list of endangered species (87-5-107) or under the federal Endangered Species Act (16 U.S.C 1531, et seq.), and in a manner that assists in the maintenance or recovery of those species" (MCA 87-1-201). This legislative code also vests in FWP the responsibility to, "enforce all the laws of the state regarding the protection, preservation, management, and propagation of fish, game, fur-bearing animals, and game and nongame birds within the state" (MCA 87-1-201). Bison are designated as a Level 2 Species of Concern by the multi agency Species of Concern Committee indicating they are at risk because of very limited and/or potentially declining population numbers, range and/or habitat. The wild bison that inhabit YNP exhibit limited seasonal migration into certain regions of Montana, but the state does not have a population managed as wildlife that resides in the state year round.

Process to Date Towards EIS Development

In 2010, FWP began a process to evaluate the opportunity for establishing a plains bison population managed as wildlife somewhere within the state through the development of a programmatic environmental impact statement (EIS,) as required by the Montana Environmental Policy Act (MEPA). MEPA establishes a process that facilitates better informed and transparent decision making by state agencies. The MEPA process requires an agency to conduct thorough, unbiased, and scientifically based full disclosure of all relevant facts concerning impacts to the human environment, which is defined as those attributes, including but not limited to biological, physical, social, economic, cultural, and aesthetic factors that interrelate to form the environment (Mundinger and Everts, 1998). This disclosure of information occurs through the development of an EIS, which examines a range of reasonable alternatives for any action.

The MEPA process encourages the public's participation throughout the assessment process. MEPA defines public participation as a process by which the concerns and comments of interested and affected individuals, groups, and agencies are considered in the decision making process.

As part of the initial evaluation for this bison EIS, the *Background Information on Issues of Concern for Montana: Plains Bison Ecology, Management, and Conservation* document was developed to compile the current body of knowledge pertaining to bison with an emphasis

on Montana. The purpose of the document was not to make management recommendations or decisions, but rather to create the foundation for an informed public dialogue about the future of bison in the state of Montana. A number of public meetings were held during the development of the background document to allow citizens to raise potential issues and enable FWP to inform citizens about the evaluation.

A public scoping process was initiated to identify potential issues, concerns, opportunities, and stakeholders in the spring of 2012. A series of eight public meetings were held throughout Montana. FWP received a total of 22,928 comments from approximately 20,160 individuals that expressed a diversity of views and opinions. FWP collected 3,472 of those comments from individuals and organizations during the public meetings. The remaining comments were submitted online or through the mail from individuals, agencies, organizations, and others who have contacted the Department. FWP reviewed every individual comment that was submitted and developed a summary of the comments now available to the public.

Public Comment (Issues and Concerns) Received to Date

The following is a general summary of the primary issues and concerns identified from the comments, questions, and suggestions received:

- **General Management Issues and Concerns:**
  - Managing bison movement and distribution across the landscape could be difficult.
  - Bison movement and distribution could be managed through hunting or other means.
  - Population control/management could be difficult.
  - Population control/management could be addressed similar to other game species.
  - Bison management could be impacted by changing conditions, e.g., drought, fire, or snow.

- **Fencing and Confinement Issues and Concerns:**
  - Bison could impact existing fences.
  - Bison should be managed as a wild herd and a fenced herd is not a wild herd.
  - Fair chase hunting would not be possible with a confined herd.
  - A non-fenced herd could require more complex management.
  - The containment and management of a fenced herd could be expensive and resource intensive.
  - Bison should be managed as a fenced in population.
  - Fencing to contain bison could impact the movement of other wildlife.

- **Public Safety Issues and Concerns:**
  - Bison presence could threaten the safety of children, hunters, ranchers, and recreationalists.
  - Bison could pose similar risks to humans as other animals i.e. elk, moose, cattle.

- Bison presence could result in increased wildlife-vehicle collisions.

- **Private Property Rights and Property Damage Issues and Concerns:**
  - Bison could damage cropland and infrastructure.
  - Bison could compete with domestic livestock for forage.
  - Landowners should be able to remove problem bison if agency response is not swift.
  - There is no existing compensation program for private property damage by bison.
  - There is no existing incentive or compensation program for landowners who allow bison on their private lands.
  - Bison could be used to limit rights on private property.
  - The right to have wild bison should be a private property right.

- **Disease and Herd Health Issues and Concerns:**
  - Any bison used for restoration should be tested prior to release and monitored over time.
  - Bison could spread disease to livestock or other wildlife.
  - Livestock could spread disease to bison.
  - There is no existing contingency plan in place for a bison herd that becomes infected.

- **Hunting Issues and Concerns:**
  - A reintroduced herd should be hunted.
  - Bison should be hunted in a manner similar to other game species.
  - Hunting bison could impact their movements and distribution.
  - A huntable population of bison could provide benefits to the community and economy.
  - The presence of bison could impact the ability to hunt other species.

- **Genetics and Restoration Source Herds Issues and Concerns:**
  - The genetic makeup of a potential source herd should be evaluated.
  - Potential restoration bison should be free of cattle gene introgression.
  - Small amounts of cattle gene introgression would be acceptable.
  - Domestic bison could impact a wild herd's genetic makeup.
  - A herd should be of sufficient size to ensure genetic health.
  - Small herds should be managed intensively to maintain genetic health.

- **Legal Status, Classification, and Regulatory Issues and Concerns:**
  - Confusion exists as to the current status and classification of bison in Montana.
  - The classification of bison should remain as both livestock and wildlife.
  - Bison should only be classified as livestock.
  - Legal status of bison in surrounding regions could have an impact on management.
  - FWP should be the sole managing authority.

- Montana Department of Livestock should be the sole managing authority.
- Bison that are classified as wildlife should be managed by FWP and bison that are livestock should be managed by Montana Department of Livestock.
- There should be an agency liable for damages caused by bison.

- **Land Use and Land Management Issues and Concerns:**
  - Grazing leases and current uses of public land should be maintained if bison are restored.
  - Presence of bison could impact grazing leases and other current uses of public land.
  - Wildlife should be a priority on public land.
  - Public land should be used to support the economy.
  - Bison restoration should not impact recreational activities on public land.
  - Programs should be developed that allow for bison restoration and continuation or even an increase in public land grazing by domestic livestock.

- **Impact on Livestock, and Domestic Bison Producers Issues and Concerns:**
  - Coexistence of bison and domestic cattle on the Montana landscape is debatable or unknown.
  - There is debate over whether wild bison would breed cattle or prevent them from using resources.
  - Wild bison could try to interact with domestic bison.

- **Ecological Impacts and Impact to Other Wildlife Issues and Concerns:**
  - Bison could have a positive impact on prairie vegetation and associated species such as grassland birds.
  - Bison could be an important part of a healthy ecosystem.
  - Bison could negatively impact riparian habitat.
  - Bison could potentially spread weeds.
  - There could be increased competition for limited resources with other wildlife species.
  - Impacts of wallows could be both positive and negative.

- **Economic and Community Impacts Issues and Concerns:**
  - Wild bison could positively impact local economies through tourism, hunting, or other opportunities.
  - Restoration and management of wild bison could be important to Montana's wildlife heritage and could strengthen Montana as a national leader in wildlife and outdoor opportunities.
  - Bison could have negative or positive impacts to the tax base.
  - There could be a loss of agricultural revenue if bison are restored.
  - The threat of brucellosis could negatively impact Montana's beef industry, e.g. lower prices or additional restrictions on Montana cattle or beef.

- **Tribal Involvement and Cultural Connection to Bison Issues and Concerns:**
    - Tribal treaty rights both on and off reservations should be considered.
    - Bison should be restored due to cultural and spiritual significance of bison.
    - Concern was expressed over tribal participation in potential programs both on and off of reservation lands.

- **Role of Federal Government and Other Agencies or Organizations Issues and Concerns:**
    - Bison restoration and management should be a cooperative effort between Montana and the federal government if federal land is involved.
    - The federal government should not be involved in the management of the state's wildlife.
    - Concern was expressed that other organizations and agencies could move forward with bison restoration in Montana if FWP does not.
    - The Montana Department of Livestock should play a role in the management of wild bison.
    - The Montana Department of Livestock should not have authority or a role in the management of wild bison.

- **Funding and Fiscal Issues and Concerns:**
    - Partial funding and resources should be provided by other organizations or agencies.
    - The cost of program alternatives should be examined and considered.
    - The limited funds of FWP should not be spent on bison.
    - A bison management program could have an impact on existing programs budgets.
    - Taxes should not be used to fund potential programs.

- **Research, Education, and Outreach Issues and Concerns:**
    - Further research as to how bison will behave and use the landscape should be explored.
    - A smaller herd should be used as a research opportunity.
    - Education and outreach relative to hunting, disease, and living with bison should be explored.

- **Potential Locations and Habitat Suitability Issues and Comments:**
    - Rangeland assessments should be completed to ensure that the habitat could support a healthy herd prior to any restoration.
    - Bison should only be restored to their historic range.

- **Potential Program Alternatives That Were Suggested:**
    - No Action: FWP should not move forward with managing bison as wildlife.
    - Restore wild bison to suitable prairie habitats as elk and deer have been restored.
    - Restore only a small herd or herds that could serve as a model for future efforts.

- Restore a large herd or herds that are genetically viable and ecologically functioning.
- Restore a herd that is of sufficient size to allow for a hunting program.
- Manage bison in fenced herds.
- Restore bison to Native American Reservations only.
- Confine bison to Yellowstone National Park and manage bison as livestock outside of the Park.
- Restore bison on public lands, especially the Charles M. Russell National Wildlife Refuge.
- Bison should be sent to Russia, Central Park, or the capital building in Helena.

- **Comments on this EIS and Scoping Process**:
  - FWP needs to act quickly in developing a management plan.
  - Only local input should be included since the program would have local impacts.
  - All citizens should be able to contribute since public land is involved.
  - There is a lack of trust in the planning process primarily related to how comments will be treated.
  - There is concern over FWP's ability to manage bison as wildlife.
  - There is support for FWP to be the agency that manages bison as wildlife.
  - There is support for Montana Department of Livestock to be in charge of bison and their management.

Participants in the scoping process identified a number of potential locations for bison restoration in addition to locations identified in existing bison restoration publications. FWP visited sites and met with local organizations, individuals, and agency personnel to begin developing an understanding of the habitat, potential issues, and potential suitability of different locations across the state.

The Lewistown Discussion Group

In September of 2013, the FWP Director convened a working group of representative interests in Lewistown to discuss the most effective way to move forward with the EIS process. The objectives of this working group meeting were: 1. Provide a discussion opportunity to better inform and clarify interests and concerns about bison on the landscape; 2. Explore common values, parameters and guiding principles related to bison. The list of agreed to parameters that would guide any restoration effort of bison is shown below, and a summary of the entire discussion is available on the FWP Department website.

Parameters that would guide any alternative to reintroduce bison as part of a test project or restoration effort:

- comply with all applicable laws, to include continued ability to lethally remove bison that threaten human life or livestock.

- manage bison as wildlife.
- respect private property rights.
- involve landowners, sportsmen, conservationists, tribes, and all interested parties.
- include meaningful involvement and guidance from a local working group for site-specific planning.
- have a defined timeline, desired outcomes, benchmarks, and planning for both successes and failures.
- include monitoring and evaluation to inform management decisions and track progress toward meeting objectives.
- include a clear process for adaptive management and identification of next steps.
- have defined geographic boundaries.
- have defined containment measures that may include but be not limited to fencing, geography, herding, and hunting.
- have defined population objectives.
- be compatible with range carrying capacity as determined by public land managers and generally-accepted range science.
- include only tested and confirmed disease-free source bison.
- include herd health monitoring designed cooperatively by DOL and FWP.
- include only source bison that are genetically intact/desirable.
- utilize public hunting as a primary tool for population management and dispersal.
- include contingency planning for unexpected circumstances, changing conditions, natural disasters, etc.
- consider incentives for participating landowners.
- address damages through existing game damage programs and processes.
- identify sustainable funding for all components.
- include annual reporting and cost assessments.
- ensure that bison will not unreasonably affect existing land uses, such as timber harvest, energy development, or public land grazing unless mutually agreed upon by affected parties.
- ensure that bison will not unreasonably displace other native ungulates, or reduce hunting opportunities for other species on public lands.

Based on these agreed upon parameters, further discussions will have to address issues such as which statues are pertinent and what they require. For example there are statutes that require the state to manage bison to avoid their being listed as a threatened or endangered species. There are also statutes that may constrain specific aspects of a potential program. Many other issues will need to be discussed in more detail within the EIS and many of the parameters will have different implications depending on the alternative or alternatives selected for further review.

Potential Management Alternatives for an EIS

A range of potential management program alternatives have been identified through public scoping and ongoing discussions. What follows is a general overview of the potential management alternatives that are within the scope of this planning process and could be feasibly evaluated through the development of a draft programmatic EIS. The purpose of the following is to provide a general overview of some of the potential management alternatives and their implications. Specific details for the following possible alternatives are not included here. Considerations for bison restoration such as those suggested by the Lewistown group will be incorporated into the draft EIS as appropriate.

For purposes of drafting an EIS, any alternative, with the exception of the 'no action' alternative, should be discussed within the context of different sites across the state. The most likely sites to implement suggested alternatives #2-#6 include tribal lands, private lands currently owned by the American Prairie Reserve and/or The Nature Conservancy, Charles M. Russell National Wildlife Refuge, Rocky Mountain Front lands, and/or public lands where support and opportunity exist. Other sites suggested for consideration have been evaluated by FWP but deemed unsuitable for a variety of reasons.

Alternative 1: No Action

No matter what other alternatives are considered, within the draft programmatic EIS, the No Action Alternative will need to be examined. Selection of this alternative would mean that the agency will not move forward with the restoration of bison managed as wildlife somewhere in Montana. It does not mean that other entities will not continue to move to restore bison to the landscape or that bison will only be considered as domestic livestock.

The following must be taken into consideration when evaluating the No Action Alternative:

Continued and Possibly Increased Federal Involvement in Bison Management:

- Based on the 2008 DOI Initiative, 2011 NPS Initiative, and 2012 Secretary of DOI Initiative. Federal agencies are in the process of evaluating the potential to restore bison to federal lands within Montana. It is unclear what role, if any, FWP and sportsmen would have in the management of bison restored to federal lands.
- National Park Service has developed a "Call to Action", which calls for the restoration of three new bison herds as part of celebrating the 2016 Centennial of the NPS. One of the possibilities they have identified is the area in and adjacent to Glacier National Park.

Continued Pressure for Bison to be Protected Under the ESA:

- If the No Action Alternative is chosen, there will be increased pressure by organizations and individuals to list bison under the ESA. Potential ESA listing would have significant implications to the state of Montana and other areas and a wide variety of stakeholders. ESA requires evaluating the following criteria to determine a species status.
    - "*The present or threatened destruction, modification, or curtailment of its habitat or range*:"

        - Bison habitat has been dramatically modified or destroyed due to grassland conversion to crop land, oil and gas development, continued urbanization, and other factors. The distribution of bison that are managed as wildlife has been curtailed to a fraction of their historic range and is at a level that is significantly lower than other species which are currently listed or candidates for listing such as sage grouse, wolverine, grizzly bears, or lynx.
    - *"Overutilization for commercial, recreational, scientific, or educational purposes;"*
        - The need to manage bison numbers and distribution through population reduction in and adjacent to Yellowstone National Park for disease risk considerations could potentially negatively impact this significant bison population. While current programs do not create a high level of risk, ongoing pressures from some interests call for dramatically reducing or even eliminating these animals.
        - Private ownership of bison is expanding throughout the historic habitat of this species. Currently bison producers manage over 400,000 bison in North America. These animals are managed for a variety of purposes, but are largely treated in a similar fashion as domestic livestock. It is unclear how the utilization of bison for commercial purposes may impact opportunities to restore bison to be managed as wildlife.
    - *"Disease or predation;"*
        - There are diseases such anthrax which have occurred in domestic bison and domestic livestock in Montana that could lead to a dramatic reduction in the few existing wild herds. Anthrax in wood bison in Canada has significantly impacted several of their populations. Anthrax outbreaks and wolf predation has significantly impacted the overall recovery of the herd in Prince Albert National Park and the surrounding areas.
    - *"The inadequacy of existing regulatory mechanisms;"*
        - Existing regulatory mechanisms have failed to restore bison in Montana as a wildlife species for over a century. In addition there continues to be significant legislative hostility towards the species as reflected in the bills introduced in the 2013 legislature. The recent resolution passed by the Montana Association of Conservation Districts which states, in part, they would like to identify a sponsor for a bill in the 2015 Montana Legislature to amend Montana Law to prohibit the establishment of any free roaming wild buffalo or bison within the state of Montana could raise concern over the adequacy of regulatory mechanisms in Montana.

- *"Other natural or manmade factors affecting its survival;"*
  - Many of the bison herds in existence today, including some of the so called 'conservation' herds, contain cattle genes due to human manipulation. In addition many of 'conservation' bison are in confined herds that are highly manipulated and not subjected to the natural selective pressures or environmental influences.

- The Buffalo Field Campaign is currently working to have the bison of Yellowstone protected under the ESA as a Distinct Population Segment.

- The IUCN Bison Specialist Group and the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) are independently reviewing the status of plains bison. The COSEWIC mammal committee recently reexamined the status of plains bison in Canada and determined that they should be a threatened species. It remains to be seen if the main COSEWIC committee will concur with this recommendation. The IUCN Specialist group's determination will be available in 2015.

Mounting Pressure from Tribes to Restore Bison and Honor Treaty Hunting Rights:

- Native American tribes in Montana and elsewhere are expressing an elevated interest in bison restoration and management. Many tribes have expressed an interest in having a role in the ongoing operational quarantine program for Yellowstone bison. There is growing pressure from tribal interests, both inside and outside of Montana, to restore bison to public lands to honor tribal treaty rights.
  - A national tribal treaty convention to examine treaty rights and how they relate to wildlife is being planned for the summer of 2014.
  - In 2012, the Montana/Wyoming Tribal Leaders Council passed a resolution that called for the State of Montana to recognize the trust responsibility and treaty obligations to American Indian Nations in providing for viable populations of migratory buffalo in their native habitat. The resolution notes, "by severely limiting wild buffalo abundance and distribution on public trust lands, the state of Montana has abdicated its trust responsibility to ensure populations of indigenous species persist for future generations in perpetuity".
  - The Montana/Wyoming Tribal Leaders Council passed a second bison related resolution in March of 2013. This resolution continued to call for the State of Montana and Federal agencies to "recognize and honor its trust responsibility and treaty obligations to American Indian Nations in providing for viable populations of migratory buffalo in the wildlife species' native habitat" (MT/WY Tribal Leaders Council, 2013, p. 1).

Non-Government Organizations will Continue to Work to Restore Bison:

- A number of national, international, and regional nongovernment conservation organizations have made the preservation of bison and restoration of wild bison a priority. These organizations are working within Montana and neighboring regions

in the West on a number of initiatives ranging from the restoration of bison as native grazers to increasing the available habitat for bison. These organizations currently have no legal authority to restore bison as 'wildlife' without the cooperation of FWP.

- American Prairie Reserve (APR) has purchased private deeded land and associated public land grazing permits and now controls nearly 274,000 acres in eastern Montana as a prairie reserve. APR has made the restoration of bison one of their main priorities and has indicated a desire to manage 1,000,000 acres in combination with adjacent public lands. The organization has also indicated that they would like to restore a bison herd of significant size.
- World Wildlife Fund, Wildlife Conservation Society, the Wildlife Federation, the American Bison Society, and others continue to work on restoring bison on suitable landscapes in Montana.

Montana will Continue to Face the Controversy and Expense of Ongoing Bison Management of the Bison that Migrate out of YNP:

- There is the potential that the restoration of a herd of bison managed as wildlife, in Montana, could lessen some of the controversy and focus on the current management practices under the IBMP.
- The bison currently held at Turner Enterprise's Green Ranch will be returned to the State of Montana in November of 2014 yet the fate of these animals still needs to be determined. There is mounting pressure to use the quarantine bison to restore a public herd that could be hunted. While some opportunities may arise to place some of the animals on tribal lands in Montana or elsewhere, there are others who feel this is an ideal opportunity to initiate a properly scaled experiment to establish a herd of bison managed as wildlife in Montana.
- The Yellowstone bison population is currently over objective at over 4,600 animals. A significant out migration of bison with all of its attendant publicity and conflict is expected during the next severe winter.
- There is significant discussion about the need to reconstruct the IBMP. This process has the potential to continue to be protracted and controversial depending on the approach taken.

Loss of Ecological Benefits Provided by Bison

- Bison are a keystone species within plains and prairie habitats, meaning they play an important role by influencing the plant and animal communities around them. For example, the grazing and wallowing behavior of bison result in the creation of specific environments, which contain plant communities that have a greater diversity than the surrounding region. This increase in plant diversity is utilized by other animals and increases the diversity of wildlife within the region. If the decision is made to not restore bison then other species within the ecosystem will not receive the benefits the bison could provide, such as certain grassland birds that are in decline.

Any of the following alternatives, if selected, could be carried out by FWP or by FWP in cooperation with other entities such as tribal governments or non-government organizations.

Alternative 2: Slow Growing, Very Small Herd (<50 bison)

A potential alternative is the reintroduction of a very small herd with a slow growth rate and a management objective of approximately 50 bison. By slowly developing a small herd, it could make it easier to respond to potential issues that could arise and may allow for the gradual increase of social tolerance. Since there is a lack of information as to how bison will use any particular landscape, starting small would allow for a 'learn as we go' approach that could have less potential for negative consequences than with a larger herd.

The herd could be restored through a soft release multi-year program with population increases only through natural reproduction and limited introductions. Hunting could be used to maintain the herd at approximately 50 adults (approximately 20 a year could be harvested) for several years in order to allow FWP to gain an understanding of herd movement and range use, and to evaluate management techniques. The program would be regularly reevaluated to determine if it should be increased or further reduced.

This type of program due to its limited size would provide limited hunting opportunities, may not mitigate additional federal involvement, may not reduce the pressure to list bison under the ESA, and would result in limited ecological benefits. Conversely, potential negative impacts from this type of program would most likely be very limited and could provide for opportunities to further identify the actual impacts of bison on the landscape.

Examples:

Chitina River Herd, Wrangel-St. Elias National Park and Preserve, Alaska

The Chitina River herd has a population objective of 50 animals, occupies a 40 mile range along the upper Chitina Valley and is managed through hunting. *Management objectives and a management plan exist for this herd and are available for review.*

In 1928, bison were relocated to Alaska's Delta Junction from the National Bison Range in Montana. In 1962, 29 cows and 6 bulls were moved from Delta Junction to May Creek to form the Chitina River herd. The herd increased to as many as 56 bison in 1985, then declined to a low of 25 in 2004 as a result of increased mortality during winters with deep snow pack. The management objective is to maintain the herd at a minimum of 50 overwintering adults by increasing or decreasing harvest when bison numbers exceed or fail to reach the objective. In 2010, 46 bison were observed during aerial counts. In 2011, this number dropped to 36, but it was believed to be a low count due to a significant portion of the herd being in thickly timbered

Chitina Herd

habitat. On average 2 bison have been harvested annually since 2006.

Caprock Herd, Caprock Canyons State Park, Texas (Captive herd but demonstrates small size).
The Caprock herd does not have a clear population objective, occupies a 700 acre fenced range but provides no hunting opportunities. *A management plan could not be found for herd.*

The Caprock herd originated from the Charles Goodnight herd in Texas. The bison were transferred to Caprock State Park in 1997 and were held in a 320 acre pen. The herd was recently transferred to a larger enclosure. Though this herd does show signs of cattle gene introgression, this herd features genetics that are unique and represent the last remaining examples of the Southern Plains variety. Due to its small size and isolation this herd has low genetic diversity. This herd is declining due to problems with survival and reproduction due to the low numbers. Managers are trying to increase the population and maintain genetic diversity through intensive select breeding.

Alternative 3: Small Research Herd (<100 bison)

An alternative that could be considered is the reintroduction of a small research herd of approximately 100 bison. The introduction of a small heavily monitored herd would allow FWP to gain an understanding of how bison utilize the landscape and allow for the development of social tolerance. The bison could be radio collared and tracked to gain information for future bison management. Closely monitoring the herd would increase the ease of disease and population management. It may be possible to work with NGOs and other agencies to help offset the cost of the research program.

The herd could be established through the soft release of 25 bison in year one. Following the initial release an additional 25 could be introduced in the second year. The herd could be allowed to grow through reproduction until it reaches 100 adults. At this point a hunting program could be implemented. The population growth rate would be dependent on the age of the bison that are restored and the sex ratio. It is most likely that hunting could be implemented within five years.

This type of program due to its limited size could provide limited hunting opportunities, may not mitigate additional federal involvement, may not reduce the pressure to list bison under the ESA, and would result in limited ecological benefits. Conversely, potential negative impacts from this type of program would most likely be very limited but potentially more than alternative 2 and could provide for opportunities to further identify the actual impacts of bison on the landscape.

Examples:

House Rock Herd, House Rock Wildlife Area, Arizona

The House Rock herd has a population objective of approximately 100 animals, occupies 60,000 acres primarily of USFS land and is managed through hunting. *Management objectives and a management plan exist for this herd and are available for review.*

Bison utilize all elevations of habitat at House Rock. PHOTO CREDIT: A. DOOD

Though bison were historically present in small numbers throughout Arizona, unregulated hunting led to their extermination from the state. Charles J. "Buffalo" Jones established a herd on the North Kaibab Plateau in 1905, and the U.S. Congress listed bison as one of the wildlife species that should be maintained on the Kaibab Plateau during the establishment of the Grand Canyon Game Preserve. In 1926, Jimmy Owens sold 98 bison that had originated from Yellowstone to the State of Arizona, which then moved them to the House Rock Valley. The House Rock herd reached a population of around 300 during the late 1950s and early 1960s. The herd was then reduced to 100, and a population objective was set to maintain 100 bison. The herd size is managed through public hunting. The current population is estimated to have grown to over 300 bison as a result of the bison learning to take refuge in Grand Canyon National Park during the hunts. In 2010, the herd did not migrate down to House Rock to calve, and instead produced their young inside Grand Canyon National Park for the first time. Grand Canyon National Park considers these bison a non-native species since there is evidence of cattle introgression within the herd. The Park is exploring options of eradicating the bison from the Park, but this would require intense management action.

Primrose Lake Herd, Primrose Air Weapons Range, Alberta and Saskatchewan

The Primrose herd does not have a population objective, occupies parts of the 4,600 sq. mile Primrose Lake Air Weapons Range and is managed through hunting. *A management plan does not exist for this herd.*

In 1969, the Saskatchewan Department of Natural Resources reintroduced 50 bison from Elk Island National Park to a site near Prince Albert National Park. The agency recaptured these bison after the herd moved and released 17 of them to an area north of the weapons range. The herd eventually moved onto the weapons range where there is very limited access so the herd is not actively managed or monitored. The current herd of about 100 is hunted by First Nations bands, but access is limited due to military operations. There is significant oil and gas development on the range. Bison that wander off the range are not protected from hunting.

Alternative 4: Minimum Genetic Herd (200-400 bison)

Bison within Prince Albert National Park. PHOTO CREDIT: A. DOOD

An alternative that could be considered is reintroducing and building a herd of approximately 200-400 bison, the minimum size suggested to address genetic concerns. This is the type of management alternative that is used in many programs including the Henry Mountains (population objective of 325 adults at end of hunting season), Book Cliffs (post hunting season goal of 450), House Rock (population objective of 100, but currently over 300), and Jackson WY (population objective of 500). Herds of about 400 have been the minimum recommended by geneticists to maintain genetic viability. Current research has been recommending herds greater than 400.

There are a number of ways that this type of program could be introduced, developed, and managed. The nature of any management plan would depend on how quickly it was desired to have the program reach desired herd size. The desired long-term distribution of the bison would have to be determined. Decisions to be made would include the number of animals initially introduced, the number to be subsequently introduced, the time period of introductions, and the details of any hunting program. The population growth rate would be dependent on the age and sex ratio of the introduced bison.

This type of program could provide more hunting opportunities due to its somewhat larger size, may mitigate additional federal involvement, may reduce the pressure to list bison under the ESA, and may result in more ecological benefits. Conversely potential negative impacts from this type of program could be more than Alternative 2 or 3.

Examples:

Sturgeon River, Prince Albert National Park and Surrounding Region, Saskatchewan

The Sturgeon River herd has a minimum population objective of 175 and an upper population threshold of 430 bison. These bison range through 500 square miles which consist of the southwestern corner of Prince Albert National Park and surrounding public and private lands, and it is managed with limited hunting. *Management objectives and a management plan exist for this herd and are available for review.*

In 1969, 50 bison from the Elk Island National Park herd, which originated from Moise, MT, were transferred to the Thunder Hills north of Prince Albert National Park, as an additional meat source for First Nations People. Upon release the bison began to move south and between 10 and 22 were permitted to remain in Prince Albert National Park. This is one of two disease-free, unfenced plains bison populations that exist within its historic range in Canada, and the bison are allowed to freely move between the park and surrounding land.

The population continued to grow within the park and reached 400 animals in 2006. The population was reduced to approximately 200 following an anthrax outbreak and remains at fewer than 250 animals (2012). First Nations People have the reserved right to harvest bison from the Sturgeon River Plains Bison Herd outside of park boundaries with landowner permission through treaty rights.

The management of the herd is a cooperative effort between government agencies and regional landowners. Bison movement onto private land surrounding the park led to some conflict with neighboring landowners over crop depredation, which led to the development of the Sturgeon River Plains Bison Stewards (SRPBS). This organization of concerned landowners, ranchers, farmers, and bison producers work collectively with government agencies to create an environment where bison can coexist with local landowners in a mutually beneficial way. The management plan for this herd was developed though a planning process that allowed SRPBS to serve as full partners with the federal and provincial governments.

Henry Mountains, Henry Mountains Wildlife Management Area, Utah
The Henry Mountains herd has a population objective of 325 adults post hunting season, occupies an area of 300,000 acres and is managed through hunting. *Management objectives and a management plan exist for this herd and are available for review.*

This herd was reintroduced to the region in 1941 with 18 bison from Yellowstone National Park. Five bulls were added in 1942, following dispersal by some of the original bulls. In the Henry Mountains cattle and bison have coexisted since 1941. As the bison herd increased to over 200 in 2013, so did tension with regional landowners and livestock producers. Efforts to mitigate conflicts included the creation of the Henry Mountains Bison Committee. Through the work of this committee, public support and/or tolerance of the wild herd appears to have increased yet there are still conflicts over water use and grazing.

Henry Mountains bison habitat.
PHOTO CREDIT: A. DOOD

Over 10,000 applications are submitted annually for 60-100 once-in-a-lifetime permits. Managers note that there is an average hunter success of 90%. Over a million dollars has been spent on habitat and water improvement projects to improve resources for both bison and domestic cattle. Much of this funding has been generated through regional sportsmen organizations.

Book Cliffs, Book Cliff Wildlife Management Unit, Utah
The Book Cliffs herd has a population objective of 450 post hunting season, occupies 1.47 million acres and is managed through hunting which began in 2013. *Management objectives and a management plan exist for this herd and are available for review.*

This location is adjacent to the Uintah and Ouray Reservation. There is a public herd and a tribal herd, though the two often intermingle. As bison move between public and tribal lands the management of the bison shifts from public to tribal responsibility. Though bison were historically present in the region, they were absent from the Book Cliffs until the Ute Indian Tribe reintroduced six bison onto the Uintah and Ouray Reservation in 1986. The tribal herd has increased to approximately 600-800, though the stated objective is 450 bison.

The effort to reintroduce a public herd to the Book Cliffs region began about 20 years ago following the movement of some of the tribal bison across the Book Cliffs. In 2006 the North Book Cliffs Bison Planning Committee (committee) was created to examine the potential of reintroducing a public herd to the region. The committee was made up of a diverse collection of public agencies, private landowners, and interest groups. The committee established management goals and reintroduction plans. In 2008, 14 bison were donated from the Ute Tribe and in 2009, 30 bison were relocated from the Henry Mountains to form the new herd. Though the original plan was for the release of 45 bison total, a surplus of bison at the Henry Mountains allowed the capture and release of an additional 40 bison in January 2010. Between 80 and 100 bison are present in the public herd today (2013).

Bison and cattle co-exist in this area and sportsman groups have purchased land in order to reduce conflict with the private grazing allotments that are still maintained on the wildlife management unit. The public herd moves between the reservation and the public land. The tribal herd also moves off the reservation onto public land. Difficulties with coordination between the tribe and the state game agency has increased the challenges in managing this herd. A small migration hunt began in 2012 and 8 permits have been issued for 2013-2014.

The Henry Mountains herd and the Book Cliffs herd are often the sites for research projects.

Book Cliff's bison habitat.
PHOTO CREDIT: A. DOOD

Alternative 5: Effective Population Size (at least 1,000)

An alternative that could be evaluated is the reintroduction of a herd that is managed for over 1,000 bison. Many geneticists recommend over 1,000 animals as an effective population size, although some genetic reports are

recommending that closer to 2,000 bison may be a more appropriate effective population size. An effective population maintains the genetic viability of the herd with little to no management actions over a long period of time. Biologists within YNP are recommending managing the Park herd between 3,000 and 3,500 bison. This is the only wild herd that is managed at this population level, and it is considered to have a large amount of genetic variation. Since FWP has not managed a bison herd before and the species has been absent from the landscape there are a significant number of unknowns that could be magnified within a restoration program of this size.

There are a number of ways that this type of program could be introduced, developed, and managed. The nature of any management plan would depend on how quickly it was desired to have the program reach desired herd size. The desired long-term distribution of the bison would have to be determined. Decisions to be made would include the number of animals initially introduced, the number to be subsequently introduced, the time period of introductions, and the details of any hunting program. The population growth rate would be dependent on the age and sex ratio of the introduced bison.

This type of program due to its larger size would provide more hunting opportunities and stands a better chance of mitigating additional federal involvement. This type of program would contribute to the long-term survival of the species, may reduce the pressure for ESA listing, and would result in more ecological benefits. Conversely potential negative impacts from this type of program could be more than alternative 2, 3, or 4.

Examples:

Yellowstone Herd, Yellowstone National Park with Limited Seasonal movement into Montana, Wyoming, Montana

The YNP herd has a population target of 3,000 (target is disputed) and occupies regions of Yellowstone National Park (3,400 sq. miles) with some limited seasonal access in Montana. The population is managed through hunting and culling. *Management objectives and a management plan exist for this herd and are available for review.*

YNP bison being gathered for disease testing. PHOTO CREDIT: J. PEACO; COURTESY NPS

A small number of bison found refuge in YNP during the time in which the North America herds were being decimated from hide hunters. This herd was actively managed by the Park Service. The few animals began recovery and populations were managed for stability at low levels until the late 1960s when the Park shifted to natural management. The population of the herd then increased in the 1980s and 1990s to over 4,600 animals today (2013.) The increased size of the herd and the limited amount of winter forage within YNP caused bison to move out of the Park into Montana. Concern over the spread of Brucellosis to

neighboring cattle herds led to the development of the Interagency Bison Management Plan. This plan coordinates the management of this herd by state, federal, and tribal partners.

There is a large amount of conflict related to this herd and how it should be managed. The population and distribution of this herd is managed through tribal and non-tribal hunting, capture, and culling. The management of this herd is adaptive and can be altered as conditions of the landscape alter. This herd is the only population of plains bison that has existed continuously in the wild. Cattle gene introgression has not been found during genetic tests of this herd.

Pink Mountain Herd, Pink Mountain, British Columbia
The Pink Mountain herd has an optimum population size of 1,000 to 3,000, occupies 570 square miles and is managed through hunting. *A management plan does not exist for this herd.*

In the 1970s, 50 plains bison escaped in the Pink Mountain area from a private herd of bison that originated from Elk Island National Park. The court decided these bison were the property of the province after several years and the herd was listed as 'big game' and 'wildlife'. The herd increased in size and distribution after the formation to over 1,000 animals (2011). This herd is on the southern boundary of the distribution of wood bison. Efforts have been made to direct hunting to prevent this herd from moving north and interbreeding with wood bison. The distribution and size of the herd is managed through public and First Nations hunting.

Alternative 6: Confined Herd

One management alternative that could be considered is the Confined Herd Alternative. Selection of this alternative would mean that FWP would not move forward with the restoration of a herd of bison managed as wildlife in Montana, but would instead manage a captive herd. It does not mean that other entities would not continue to move to restore bison to the landscape. Many of the same consequences from the No Action Alternative discussion would apply to this alternative. In addition managing confided herds is very expensive in terms of funding, logistics, and manpower. There are also concerns pertaining to 'fair chase hunting' and the potential impact to other species or other users relative to containment fencing.

Examples:
Raymond Ranch, Raymond Ranch Wildlife Management Area, Arizona
The Raymond Ranch objective is to manage a small herd occupying 9,438 fenced acres with guided hunting. *Management objectives and a management plan exist for this herd and are available for review.*

Raymond Ranch was established in 1942 to preserve habitat for pronghorn antelope. Bison were introduced from House Rock in 1945, and their numbers increased to 275 in the

1970s. A public culling operation involving the harvest of corralled bison was utilized to manage the herd down to 40 to 60 bison before public outcry led to the modification of these hunting practices. The wildlife area manager now guides approximately six to eight hunters annually, though this number is flexible depending on the current demographics of the herd and the population objective. The 2011 population estimate was 72 bison.

Section of Raymond Ranch perimeter fencing. PHOTO CREDIT: A. DOOD

The primary challenge associated with managing the Raymond Ranch herd is containing them within the wildlife management area. The area manager notes, however, that there is no such thing as "completely contained" bison. Perimeter fencing has progressed through modifications that include electric fencing, extension of the fence to nearly nine feet, and use of welded wire panels. These measures have resulted in little improvement in the ability to confine the bison to the wildlife area. There is concern that the increased height of fencing negatively impacts other wildlife; therefore most of the ineffective fence height extensions have been removed to allow the crossing of elk and mule deer. Though the fencing is adequate to confine the bison during most of the year, escape is common during hunting seasons and somewhat common during drought periods when bison seek forage and water on neighboring rangeland. Concerns from neighbors of the Raymond Ranch consist mostly of interference with livestock operations, consumption of forage, and damage to fencing and corrals from escaped bison. There has recently been discussion of no longer managing a bison herd on the Raymond Ranch.

National Bison Range Herd, National Bison Range, Moise, Montana

The NBR herd has a population objective of 400 within the 18,550 acres range. The bison are managed through an annual round up. *Management objectives and a management plan exist for this herd and are available for review.*

The NBR was established in 1909. The herd has been a captive herd from the start and is co-managed by the United States Fish and Wildlife Service and the Confederated Salish and Kootenai Tribes of the Flathead Reservation. The bison are periodically moved through a series of eight pastures as part of a rotational grazing system. This herd is actively managed through an annual round up where surplus bison are sold. This herd is also managed for tourism and conservation purposes to include an active genetic management program. There is a staff of 11 full time employees and 5 seasonal employees with an annual operating budget of approximately $2,095,000 (2011) to manage the 400 bison (2011).

Alternatives Suggested But Not Considered

The following suggested alternatives are outside the scope of this planning process and will not be included for consideration in a draft EIS:

Change How Yellowstone National Park Manages Their Bison: The Interagency Bison Management Plan guides management of Park bison and is being revised in a collaborative process separate from this statewide EIS.

Change How Bison are Handled When Migration Out of YNP Occurs: This alternative is not realistic within this process because the ways in which Montana and federal agency partners manage bison that migrate outside of Yellowstone National Park fall under the jurisdiction of the IBMP. Suggestions to dramatically change these management practices would require the development of a new IBMP. This is a process that is outside the sole jurisdiction of FWP and would require a large-scale effort involving numerous state, federal, and tribal management partners and processes.

Guide Tribal Management of Bison: This alternative is not realistic within this process because the manner in which different tribes manage bison on their sovereign reservations is outside the jurisdiction of FWP and the State. There is no State involvement in the management practices or hunting programs that the tribes choose to implement because they are sovereign entities.

Send Bison to Other States: This EIS is being completed to evaluate bison conservation and management opportunities within the state of Montana, not in other states.

Restore Bison Across All of Montana: Current social, biological, and political constraints make restoring bison across their entire historic range in Montana unrealistic. Much of their historic range has been converted to other uses and there would be an unmanageable amount of conflict.